**Client**                    **Server**

|                              | Presentation logic |
|                              | Application logic  |
|                              | Database logic     |
|                              | DBMS               |

**(a) Host-based processing**

| Presentation logic |       |                    |
|                    |       | Application logic  |
|                    |       | Database logic     |
|                    |       | DBMS               |

**(b) Server-based processing**

| Presentation logic |       |                    |
| Application logic  |       | Application logic  |
|                    |       | Database logic     |
|                    |       | DBMS               |

**(c) Cooperative processing**

| Presentation logic |       |                    |
| Application logic  |       |                    |
| Database logic     |       | Database logic     |
|                    |       | DBMS               |

**(d) Client-based processing**

# Figure 13.5  Classes of Client/Server Applications